

Notice of Allowability

Application No.

09/781,687

Examiner

Mark Ruthkosky

Applicant(s)

GRIEVE ET AL.

Art Unit

1745

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 9/12/2005.
2. ☒ The allowed claim(s) is/are 1-8,10-13,15-19,38 and 39.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

MARK RUTHKOSKY
PRIMARY EXAMINER

Mark Ruthkosky

12-7-05

DETAILED ACTION

Election/Restrictions

Applicant's election of Group I in Paper of 9/12/2005 is acknowledged. The election has been made without traverse. The remaining claims have been canceled.

Claim Rejections - 35 USC § 102

The rejection of claims 1, 9-13, and 19 under 35 U.S.C. 102(b) as being anticipated by Singh et al. (US 5,686,196) has been overcome by applicant's amendment.

The rejection of claims 1, 9-11, 16, and 19 under 35 U.S.C. 102(b) as being anticipated by Chiyan (JP 07-233,379) has been overcome by applicant's amendment.

The rejection of claims 1, 9-11, and 16-17 under 35 U.S.C. 102(b) as being anticipated by Gmeindi et al. (US 4,921,765) has been overcome by applicant's amendment.

Claim Rejections - 35 USC § 103

The rejection of claims 2-5 and 7 under 35 U.S.C. 103(a) as being unpatentable over Gmeindi et al. (US 4,921,765) in view of Walz (US 6,083,637), Toshihiko (JP 61125634) and Sanehiro (JP 03043298) has been overcome by applicant's amendment.

The rejection of claims 6 and 8 under 35 U.S.C. 103(a) as being unpatentable over Gmeindi et al. (US 4,921,765) in view of Walz (US 6,083,637), and further in view of Herdeg (US 6,403,243) has been overcome by applicant's amendment.

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The rejection of claim 18 under 35 U.S.C. 103(a) as being unpatentable over Gmeindi et al. (US 4,921,765) in view of Tsukasa (JP 09-075,721) has been overcome by applicant's amendment.

Allowable Subject Matter

Claims 1-8, 10-13, 15-19 and 38-39 are allowed.

The following is an examiner's statement of reasons for allowance:

The instant claims are to a trap for use with energy conversion devices comprising a trapping system including a filter element and a trap element, said filter element including a particulate filter disposed in a first chamber of said trapping system, said particulate filter including a washcoat disposed on a filter material; a reforming system; and wherein said reforming system is fluidly coupled to said trapping system with the trapping system positioned after the reforming system. The positioning of the trapping system is relative to the energy conversion device as disclosed in the specification. The prior does not teach a trap comprising a reforming system and a trapping system, wherein the trapping system includes a filter element of a particulate filter with a washcoat disposed thereon and disposed in a first chamber of said trapping system, and a trap element. The prior art teaches materials, such as a catalyst, on the filter material however there is no teaching of a washcoat material on the particulate filter in the first chamber of the trapping system coupled to a reforming system and a trap element.

The most pertinent prior art has been presented. Singh et al. (US 5,686,196) teaches a trap for use with energy conversion devices comprising a trapping system including a filter element, such as a Pd-Ag membrane coated on a porous nickel support material, and a trap

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element. A reforming system is fluidly coupled to the trapping system with the trapping system positioned after the reforming system (see column 3, lines 44-53 and figure 1.) The reference does not teach that the trapping system includes a filter element of a particulate filter with a washcoat disposed thereon and disposed in a first chamber of said trapping system, and a trap element.

Chiyan (JP 07-233,379) teaches a trap for use with fuel cell energy conversion devices comprising a trapping system including a filter element and a trap element. A reforming system is fluidly coupled to the trapping system with the trapping system positioned after the reforming system (see the abstract and drawings.) Sulfur impurities are removed using a filter comprising zinc combined with a trap (as noted in paragraphs 17-27.) The reference does not teach that the trapping system includes a filter element of a particulate filter with a washcoat disposed thereon and disposed in a first chamber of said trapping system, and a trap element.

Gmeindi et al. (US 4,921,765) teaches a trap for use with energy conversion devices comprising a trapping system including a filter element and a trap element (see col. 6, line 1 to col. 7, line 10.) A reforming system is fluidly coupled to the trapping system with the trapping system positioned after the gassifier reforming system (see figures, claims and throughout the specification.) The filter may be a ceramic filter and the trap may be zinc ferrite, calcium oxide or calcium carbonate (col. 5-6.) The reference does not teach that the trapping system includes a filter element of a particulate filter with a washcoat disposed thereon and disposed in a first chamber of said trapping system, and a trap element.

As the prior art does not teach or suggest the invention, as claimed, the claims are allowed. Any comments considered necessary by applicant must be submitted no later than the

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payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Examiner Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark Ruthkosky whose telephone number is 571-272-1291. The examiner can normally be reached on FLEX schedule (generally, Monday-Thursday from 9:00-6:30.) If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached at 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Mark Ruthkosky
Primary Patent Examiner
Art Unit 1745


12-7-05